

Appendix K: Monitoring and Evaluation Plan



Monitoring and Evaluation Plan

ML1-JAI-LSI-ROUT_XX-RP-Y-00002 | P02

2021/10/27



MetroLink

Project No: 32108600
Document Title: Monitoring and Evaluation Plan
Document No.: ML1-JAI-LSI-ROUT_XX-RP-Y-00002
Revision: P01
Date: 2020/11/24
Client Name: TII / NTA
Client No:
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File Name: ML1-JAI-LSI-ROUT_XX-RP-Y-00002.docx

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Document history and status

Revision	Date	Description	Author	Checker	Reviewer	Approver
P01	24/11/20	Monitoring and Evaluation Plan	CM	BD	GC	NC
P02	27/10/21	Monitoring and Evaluation Plan rev 2	CM	GC	JS	NC

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1. Technical Appendix: Monitoring and Evaluation Plan

1.1 Introduction

Monitoring and evaluation will be undertaken, in line with Public Spending Code (PSC) 2019 and Common Appraisal Framework (CAF) 2020 guidance, to assess the realisation of benefits. Benefits realisation is a post-delivery activity. However, effective benefits realisation is dependent on front end programme planning and the establishment of quantifiable metrics to measure the delivery of benefits. The evaluation will inform performance improvement and will be disseminated to the relevant authorities, including the NTA.

The section below details a potential structure for the monitoring and evaluation of MetroLink, this is subject to review and further development at Final Business Case (FBC) stage, to make sure that it includes the final considerations in terms of benefits, planning and construction process and recommendations made by decision makers at the different stages of business case approval.

Figure 1-1-1: Benefits Management Process



It is expected that at FBC stage, responsibility for each area of monitoring and evaluation will be assigned and that this will be overseen by a nominated officer in TII, who will be in charge of managing data gathering plans and monitoring the KPIs identified to measure the performance of the project.

KPIs will be objectively evaluated and where possible baseline data should be captured before commencement of works or when appropriate. Dates will be agreed at FBC through workshops with the relevant parties. The baseline year for monitoring will be the year before main construction works start. Annual progress reports will be published from a year after the opening year.

The spatial extent of monitoring will focus on locations within the catchment areas of new and existing stations which would see significant socio-economic improvements as set out in the Economic Case as a consequence of the scheme.

Reporting process will follow the requirements set out in the PSC and the CAF.

1.2 SMART Objectives

Table 1-1 outlines the project objectives, which gives a comprehensive definition of the issues that Metrolink aims to address. Following PSC guidance, Metrolink has updated some of its objectives to meet specific, measurable, attributable, realistic and time bound (SMART) criteria. These SMART objectives are consistent with those outlined in 'Metrolink Project Objectives and Sub Objectives Paper'.

Table 1-1 MetroLink SMART Objectives

SMART Objective	
1	Cater for existing public transport travel demand and support long-term patronage growth along this corridor through the provision of a high frequency, high-capacity public transport service which supports sustainable economic development and population growth.
2	Deliver an efficient, low carbon and climate resilient public transport service, which contributes to a reduction in congestion on the road network in the Dublin Region and which supports the advancement of Ireland's transition to a low emissions transport system and delivery of Ireland's emission reduction targets
3	Provide a high standard of customer experience including provision for clean, safe, modern vehicles and a reliable and punctual service with regulated and integrated fares*
4	Improve accessibility to jobs, education and other social and economic opportunities through the provision of improved inter-modal connectivity and integration with other public transport services and connectivity for national and international visitors using Dublin Airport
5	Enable compact growth, unlock regeneration opportunities and more effective use of land in Dublin, for present and future generations, through the provision of high capacity Public Transport whilst integrating into the existing public realm

* Customer experience has not been appraised at PBC stage, yet it may be included as part of the economic appraisal at FBC stage.

Source: TII/Jacobs/Turner & Townsend

1.3 Key Benefits to be Measured

Figure 1-2 expands on the summary table above in the form of a Project Logic Map. Logic mapping is a systematic way of presenting the key steps required in order to turn a set of resources into activities that are designed to lead to a specific set of outcomes. This approach is also referred to as the 'Theory of Change'.

Logic mapping has a number of key components, these are:

- **Current Context:** The objectives of the intervention and the key issues needing to be addressed.
- **Output:** What has been produced from the intervention.
- **Outcomes:** What are the expected short-medium term results and the potential longer term impacts as a result of the intervention.

At the PBC stage it is not appropriate to assign specific KPIs and targets to the project, instead potential outcomes are considered. Later in this report these outcomes are linked to potential indicators and data sets, to show how the final monitoring and evaluation strategy should be structured.

For the purposes of Metrolink, the five SMART objectives indicate the intervention context and the key deliverables Metrolink sets out to achieve. The output outlines the physical output that the intervention will create, which is a sustainable, safe, efficient, integrated and accessible Metro between Swords, Dublin Airport and Dublin City Centre.

Outcomes are categorised into two groups, short-medium term and long-term and incorporate the economic impacts highlighted in the project appraisal balance sheet (PABS) as part of the economic appraisal. The short-medium term outcomes are the immediate impacts expected to occur if Metrolink and the associated SMART objective deliverables are met. The long-term outcomes are the potential impacts that could occur if Metrolink and associated SMART objective are delivered and the short-medium term outcomes occur. In this sense, some long-term outcomes are dependent on the successful delivery of shorter-term outcomes.

A final agreement on the alignment between SMART objectives, output and outcomes will be determined with stakeholders at the FBC stage.

Logic mapping of this nature is particularly useful for projects such as Metrolink where there are several different actions taking place simultaneously and the links between the scheme objectives and potential outcomes are not straightforward. Theory of Change is an important tool post-implementation, as it allows the evaluator to understand how much progress has been made towards the delivery of the final impacts.

Since economic benefits were forecasted ex-ante using the best information available at the time, metrics will be used to assess the successful realisation of benefits from this project ex-post. An indicative list of the metrics is identified at PBC stage, these will also be confirmed at FBC stage. Please note that for benefit cost analysis in the economic case some of these benefits have been monetised. However, for monitoring and evaluation purpose it is more practical to use interim measures than monetary outcomes. For example, although in the economic case journey time savings have been monetised it is more practical to use time instead of euros as the metric.

The review should evaluate the following three stages post project conception: project planning, project implementation and project operational performance.

- Project planning includes the definition of clear MetroLink objectives.
- Project implementation will be evaluated through the output of MetroLink
- Project operational performance will be monitored through a robust set KPIs.

Figure 1-2 - Project Logic Map

SMART Objective	Output	Short -Medium Term Outcomes	Long Term Outcomes
Cater for existing public transport travel demand and support long-term patronage growth along this corridor through the provision of a high frequency, high capacity public transport service which supports sustainable economic development and population growth	A sustainable, safe, efficient, integrated and accessible Metro service between Swords, Dublin Airport and Dublin City Centre.	<ul style="list-style-type: none"> • Increased public transport use • Reduction in private transport share along the corridor • Increased capacity on North-South corridor through integration of different modes • Reduction in journey times to improve business and non-business efficiency and along this corridor 	<ul style="list-style-type: none"> • Additional housing provision along the corridor • Location of new businesses along the corridor • Increased jobs in catchment area • Increased Productivity and Output.
Deliver an efficient, low carbon and climate resilient public transport service, which contributes to a reduction in congestion on the road network in the Dublin Region and which supports the advancement of Ireland’s transition to a low emissions transport system and delivery of Ireland’s emission reduction targets	A sustainable, safe, efficient, integrated and accessible Metro service between Swords, Dublin Airport and Dublin City Centre.	<ul style="list-style-type: none"> • Reduction in congestion on the road network • Reduction in harmful emissions • Suitable alternative to car-based travel • Reduction in highway traffic leading to lower noise levels. • Increased provision of walking and cycling network raising levels of physical activity 	<ul style="list-style-type: none"> • Low emission transport system • Reduction of Greenhouse Gases • Improvement in air quality • Improved health • Reduces noise impact from transport in surrounding area

SMART Objective	Output	Short -Medium Term Outcomes	Long Term Outcomes
		<ul style="list-style-type: none"> Reduction in carbon per person kilometre travelled along the corridor 	
Provide a high standard of customer experience including provision for clean, safe, modern vehicles and a reliable and punctual service with regulated and integrated fares	A sustainable, safe, efficient, modern, reliable, integrated and accessible Metro service between Swords, Dublin Airport and Dublin City Centre.	<ul style="list-style-type: none"> Full integration with existing transport infrastructure within Dublin with a single integrated ticketing system Increase capacity on North-South corridor through integration of different modes Decrease the overall number of fatalities, as well as serious and slight casualties. Suitable alternative to car-based travel Increased reliability of services 	<ul style="list-style-type: none"> Improved customer experience Increased number of multi-modal trips and hence higher sustainable transport market share
Improve accessibility to jobs, education and other social and economic opportunities through the provision of improved inter-modal connectivity and integration with other public	A sustainable, safe, efficient, integrated and accessible public transport service between Swords, Dublin Airport and Dublin City Centre.	<ul style="list-style-type: none"> Increased access to jobs, education centres, health facilities and airport Increased access to other facilities for socio-economic development Reduction in journey times to improve business efficiency along this corridor 	<ul style="list-style-type: none"> Improved quality of life Better job matching Increased productivity and output. Improved domestic and international travel experience.

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SMART Objective	Output	Short -Medium Term Outcomes	Long Term Outcomes
transport services and connectivity for national and international visitors using Dublin Airport		<ul style="list-style-type: none"> Better connected more wide-reaching public transport will improve accessibility for vulnerable groups Better transport connectivity for areas with high levels of deprivation Make new land viable for commercial development Location of new businesses along the corridor Increased public transport mode share for those working at and travelling through Dublin Airport 	<ul style="list-style-type: none"> Increased jobs in catchment area. People moving into new homes Connection between communities with different socio-economic characteristics Increase in land value through viability for development by improved connectivity
Enable compact growth, unlock regeneration opportunities and more effective use of land in Dublin, for present and future generations, through the provision of high capacity public transport whilst integrating into the existing public realm	A sustainable, safe, efficient, integrated and accessible public transport service between Swords, Dublin Airport and Dublin City Centre.	<ul style="list-style-type: none"> High quality transport investment likely to attract inward investment Positive land use change associated with development. Increase land value through viability for development by improved connectivity 	<ul style="list-style-type: none"> People moving into new homes Location of new businesses along the corridor Improved business and non-business connectivity Increased jobs in catchment area. Increased productivity and output

SMART Objective	Output	Short -Medium Term Outcomes	Long Term Outcomes
		<ul style="list-style-type: none"> • Interaction of stations with urban environment raising the visual appearance of surrounding area • Increased accessibility to SDZs, low and high density and mixed land use • Metrolink is fully aligned with objectives of NPF 2040 and other regional and local planning frameworks. • Metrolink fully incorporates local, national and governmental policies through its design and delivery. 	<ul style="list-style-type: none"> • Improved quality of life • Rebalances population - affecting housing availability and prices • New sustainable communities

1.4 Benefits Measurement Metrics

At the FBC stage, a final list of outcomes will be agreed with indicators and targets assigned to all outcomes. Each will have at least one indicator, with the potential for some to have more. An example of a potential method for recording this in a table is given in Table 1-2

Table 1-2 Example Benefit Measurement Method Table

Ref	Benefit	Indicator	Target	Type	Data Requirements	Owner
Desired Outcome						
1	Reduce congestion on the roads	e.g. Improved journey times	e.g. 10% reduction on journey times on key corridors	Quantified	e.g. actual journey time measures baseline journey time measures	e.g. TII – Officer X
2	TBD	TBD	TBD	TBD	TBD	TBD

Source: Jacobs

It is not proportionate at PBC stage to assign final metrics and targets for the different impacts. This will be defined at FBC stage based on the updated economic analysis, availability and cost of baseline data and monitoring effort. However, Table 1-3 sets out a menu of type of indicators to be considered for inclusion in the final Monitoring and Evaluation Plan. The list is not exhaustive, and not all indicators will be included within the final monitoring and evaluation plan, but it gives an indication as to how the final plan will look. In some instances, multiple indicators could be combined to produce a single overall indicator yet this will be determined at FBC stage. Some potential indicators included below are informed by previous work in the economic appraisal and those highlighted in the SMART objectives.

Table 1-3 Potential Indicators

Ref	Impacts	Potential Indicators
Desired Outcomes		
1	Increased public transport use	Metro patronage levels Public Transport patronage levels
2	Reduce congestion on the roads	Traffic levels on specified roads Queue length at specified junctions along the corridor Shift from car to Metro Journey times on specific corridors
3	A suitable alternative to car-based travel	Population within 10 minutes of a station Increase in patronage levels of public transport
4	Increased jobs in catchment area	Population within 45 minutes of specific job clusters Job Density per km within Greater Dublin Area % of high value jobs within Dublin City Centre
5	Increase land value through viability for development by improved connectivity	SqM of commercial land within X metres of a public transport interchange. Sale price of commercial land within X metres of a public transport interchange
6	Increase capacity on North-South corridor and integration of e different modes	Average travel time between fixed north / south locations Number of long distance north / south trips Proportion of trips using more than one sustainable mode of transport
7	Reduction in harmful emissions	CO2 levels NOx levels PM levels
8	Reduction in traffic noise	Noise Levels
9	Make new land viable for commercial development	SqM of land re-zoned for commercial development SqM of completed commercial development sold

10	Integration with existing transport infrastructure	Number of interchanges between MetroLink and other modes Number of first / last leg made by bicycle
11	New sustainable communities	Population within X band of An Pobal HP Deprivation index Increase in Greater Dublin Area population within 500m and 2km of Metrolink stations
12	Connection between communities with different socio-economic characteristics	Additional area accessible by public transport from Swords within 45 mins Additional area accessible by public transport from St Stephen's Green within 45 mins Additional area accessible by public transport from City Centre within 45 mins Additional area accessible by public transport from Docklands within 45 mins
13	Increased access to jobs, education centres, health facilities and airport	Public transport accessibility catchments by time band to Dublin Airport Additional area accessible by public transport from Dublin Airport within 45 mins Public transport accessibility catchments by time band to Dublin City University Additional area accessible by public transport from Dublin City University within 45 mins Public transport accessibility catchments by time band to St James's Hospital Additional area accessible by public transport from St James's Hospital within 45 mins Changes in Live Register along the corridor
14	People moving to new homes	Number of new homes within a 2km catchment of Metrolink stations Increase in Greater Dublin Area population within 500m and 2km of Metrolink
15	Improved customer experience	Customer Satisfaction Surveys Operator Contract Performance Measures Punctuality and reliability levels
16	Improved reliability	Higher Public Performance Measure (PPM) scores from increased reliability of services

Source: Jacobs

In order to set and measure targets the availability, quality and style of available data needs to be considered. Table 1-4 groups the indicators by type, and provides a range of potential data sources to measure performance against the targets which will be set and agreed at the FBC stage. It is noted that some data is available in virtually real time while other are published only every few

years and often with a delay in doing so. Identifying proxies or correlating data will therefore be useful in some cases.

Table 1-4 Potential Data Sources Indicator Metrics

Ref	Data Area	Potential Data Sources
1	Road Traffic Data	Toll crossings for motorways and Dublin Tunnels Counts from existing ATC locations within Dublin Implementation of new ATC locations / manual classified counts TomTom data sets
2	Public Transport Data	MetroLink station footfall data Ticket sales Gate line passenger counts Interchange counts Questionnaires Published timetables
3	Land Use Impacts Data	CSO House completion and house sale data sets CSO Job location and type data Dublin CC Land Use / Local Plan allocation data CSO Census population data
4	Community Impacts Data	An Pobal IMD data CSO data sets on employment / education status CSO census population data Travel impact data (data sources as for 1 & 2) Live Register
5	Business Impacts Data	Survey data (direct or via Chamber of Commerce) CSO data sets on employment CSO census population data Travel impact data (data sources as for 1 & 2) Land use changes (data sources as for 3)
6	Environmental Data	Noise receptors (existing or bespoke)

	Air quality receptors (existing or bespoke)
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Source: Jacobs

1.5 Conclusion

This document provides an overview of the type of areas which will be considered for inclusion within the Monitoring and Evaluation Plan at the FBC stage, along with potential data sources. This is fundamental to ensure that the expected benefits of the scheme materialise.

At the FBC stage this will be refined further, with specific indicators and metrics defined. For each indicator included a clear rationale for inclusion will be given, along with a specific target and an owner – who is responsible for monitoring and collating information with regard to the impact area being assessed.

It is anticipated that this will be captured within a project logic map. The current project logic map is presented in Figure 1-2, demonstrating how SMART objectives create a number of likely short-medium term and potential long-term outcomes.

The final structure of the logic map and benefits realisation plan will be agreed with stakeholders at the FBC stage, to ensure that they cover all the expected outcomes and commitments associated to the delivery and operation of Metrolink.